

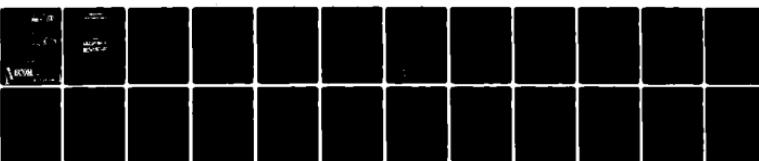
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19304A MLRS, MISSILE NUMBER 8K002, BN007, BN008 ROUND NUMBER V---ETC(U)

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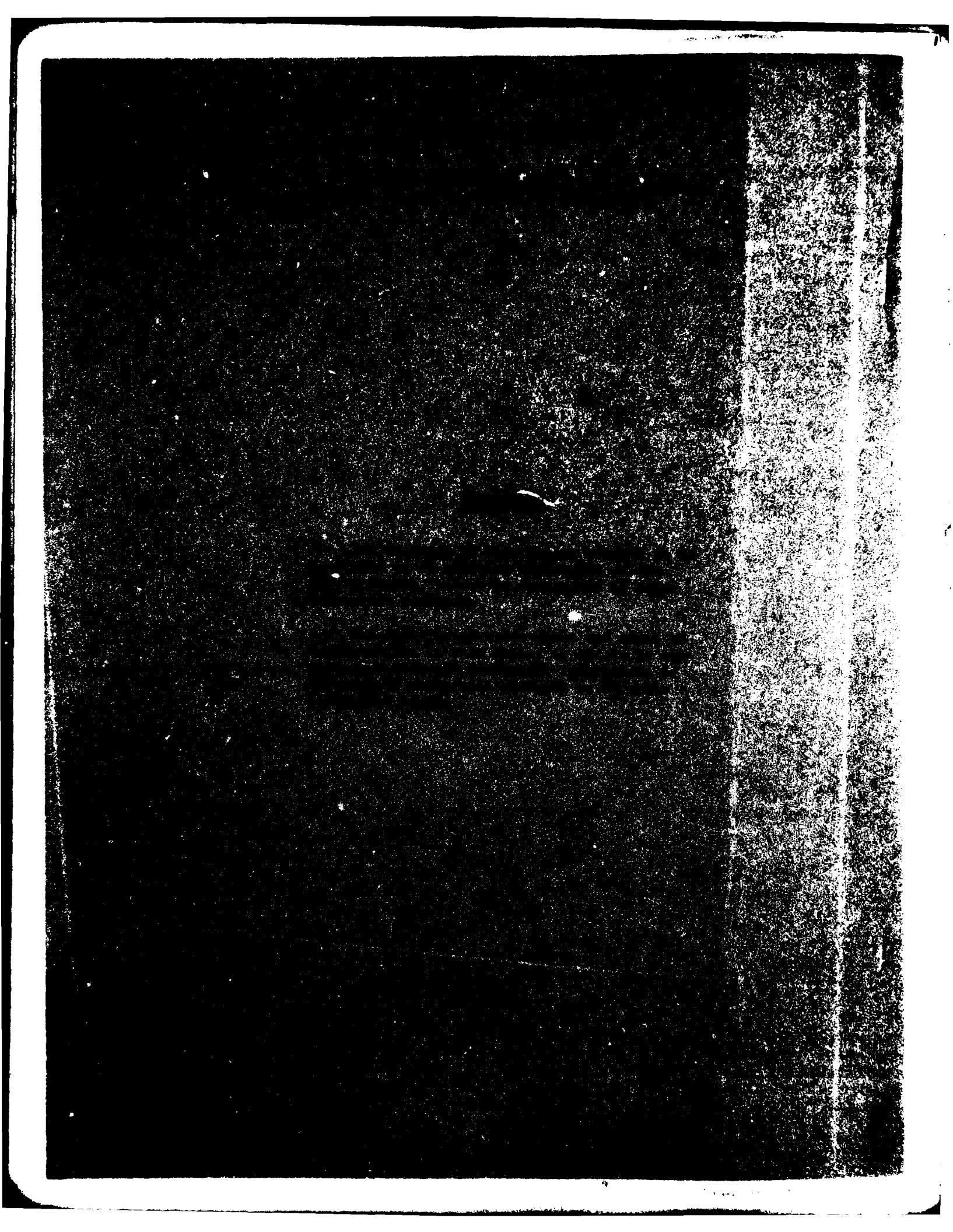
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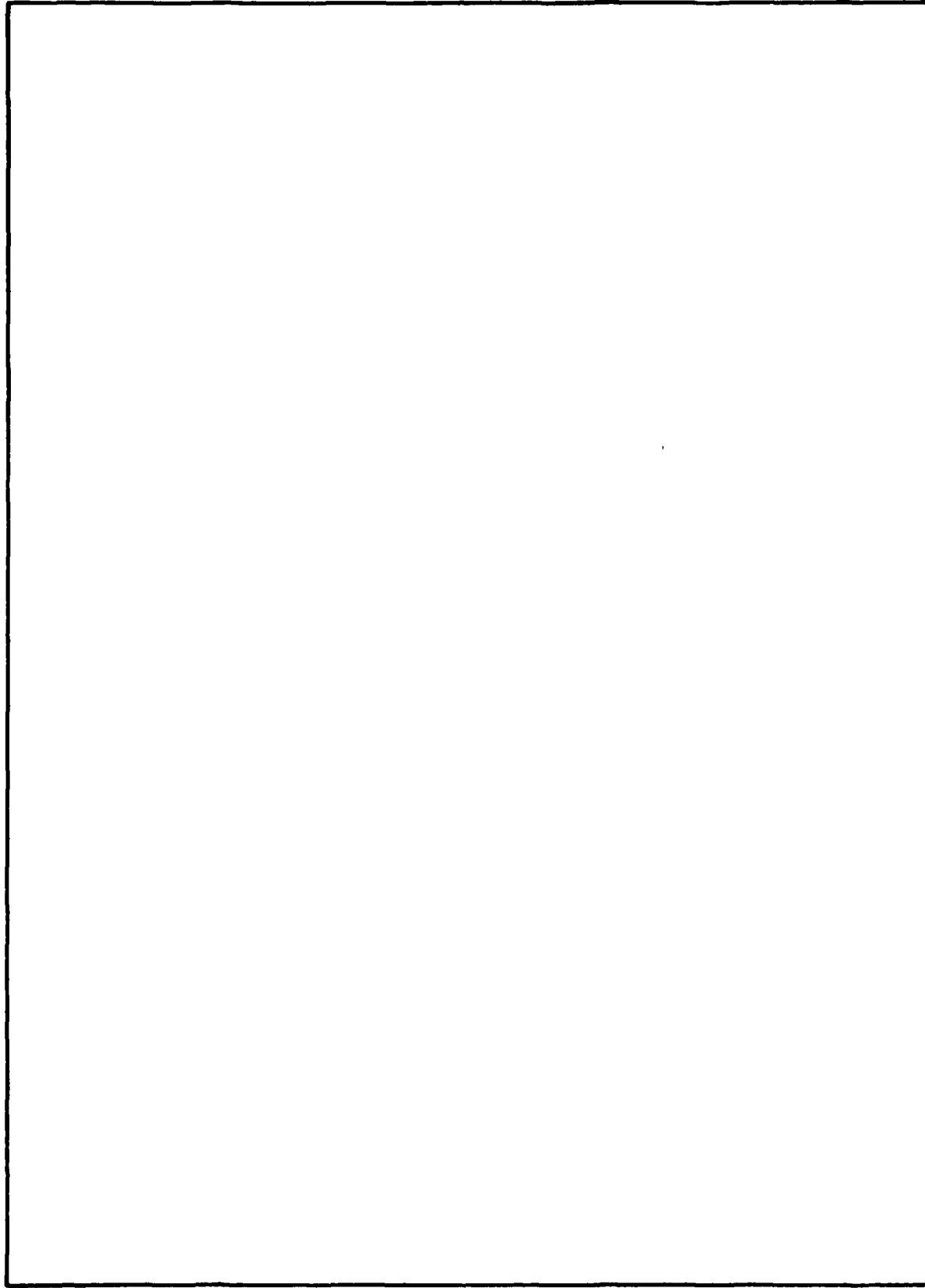
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INTRODUCTION

19304A MLRS, Missile Numbers BK002, BN007, and BN008, Round Numbers V-146/MD-13, V-147/MD-14, and V-148/MD-15, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1511:00, 1511:05, and 1511:10 MDT, 26 May 1981. The scheduled launch times were 1400:00, 1400:04.5, and 1400:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observations at:

SITE AND ALTITUDE

LC-33	2 KM
SMR	2 KM

(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

LC-37	1100 MDT
WSD	1200 MDT
LC-37	1300 MDT
WSD	1511 MDT

Accession For	
NTIS	ORIGIN
DATA	TYPE
NAME	DATE
ADDRESS	1
PHONE	2
FAX	3
TELE	4
MAIL	5
EMAIL	6
PC	7
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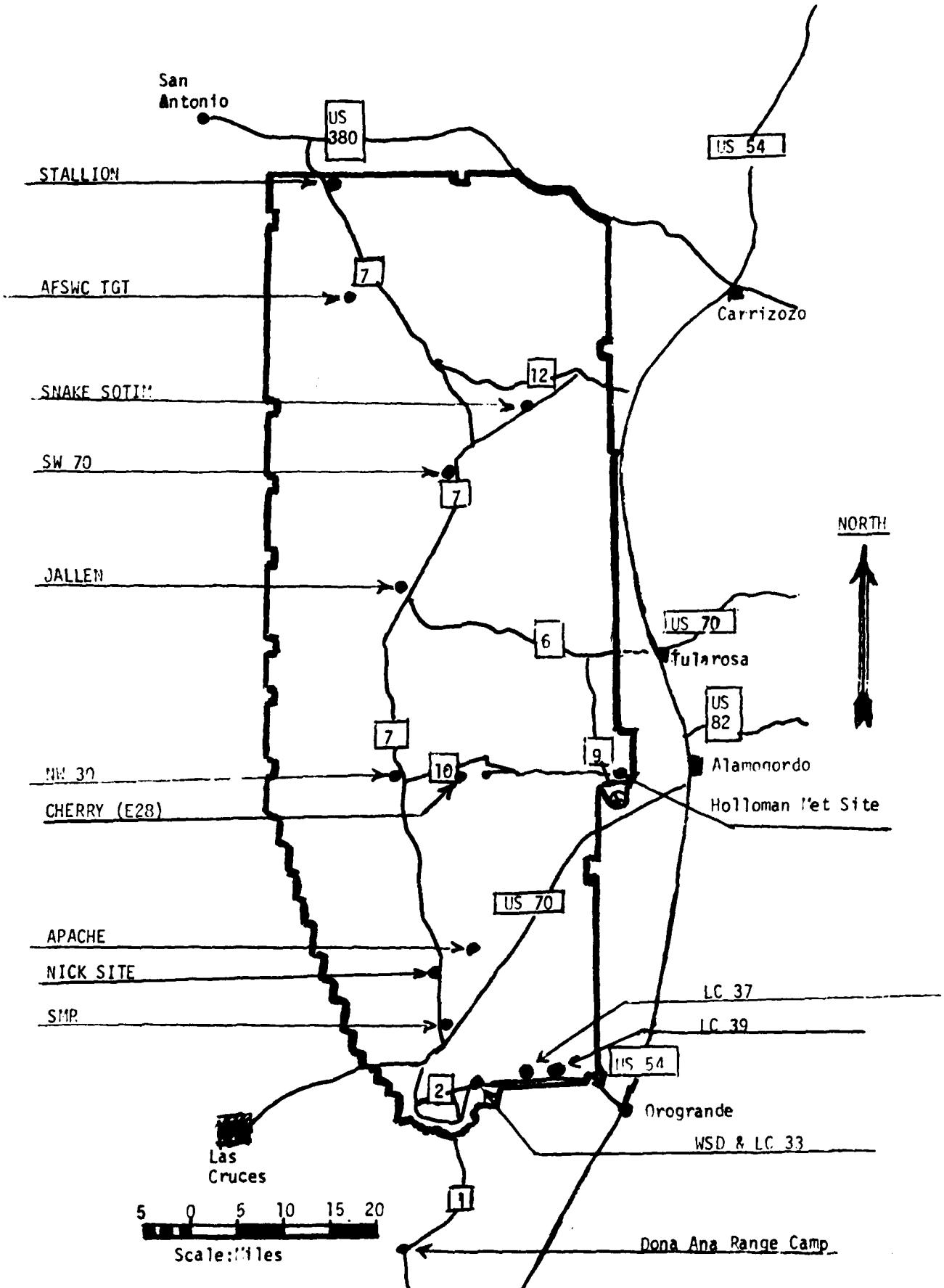


TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	288	13	T-30	295	10	T-30	292	14
T-20	278	12	T-20	285	10	T-20	287	11
T-10	273	10	T-10	282	09	T-10	283	12
T0.0	267	10	T0.0	282	07	T0.0	289	11
T+10	268	10	T+10	266	08	T+10	273	10

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	295	10	T-30	294	10
T-20	288	09	T-20	289	08
T-10	291	06	T-10	285	09
T0.0	318	07	T0.0	278	08
T+10	297	06	T+10	290	08

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	284	10	T-30	288	10
T-20	285	09	T-20	284	11
T-10	280	09	T-10	282	10
T0.0	287	09	T0.0	280	10
T+10	287	10	T+10	288	09

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA
 DATE 26 May 1981

SITE: LC-33
 TIME: 1511 MDT
 WSTM COORDINATES:
 X= 485,135.76
 Y= 185,919.24
 H= 3988.57

SITE: SMR
 TIME: 1511 MDT
 WSTM COORDINATES:
 X= 472,444.85
 Y= 213,781.96
 H= 4000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	320	08	SURFACE		
150	298	10	150		
210	289	08	210		DATA INVALID
270	298	06	270		
330	264	04	330		DUE TO TRACKING
390	271	07	390		
500	263	05	500		ERROR
650	260	06	650		
800	264	06	800		
950	264	07	950		
1150	251	09	1150		
1350	253	06	1350		
1550	255	09	1550		
1750	242	09	1750		
2000	239	11	2000		

Data obtained from RAPTS T-9 Tracking Pilot-Balloon Observation.

TABLE 5AIMING AND T-TIME COMPUTER MET MESSAGES
26 May 1981

LC-37	1100 MDT	WSD	1200 MDT
METCM1324063		METCM1324064	
261700124876		261800122877	
00151003	30360876	00142005	30370877
01078005	30110866	01285010	30230868
02021006	29770841	02165003	29910843
03040006	29380803	03157005	29530805
04627006	28890758	04184002	29040760
05506009	28450714	05063004	28540716
06473012	27980672	06580006	28080674

LC-37	1300 MDT	WSD	1511 MDT
METCM1324063		METCM1324064	
261900124875		262120122875	
00213002	30430875	00533010	30660875
01164004	30190865	01487017	30520865
02000000	29870840	02508013	30200841
03407004	29480803	03480013	29760804
04428010	28960757	04467014	29220759
05452013	28490714	05458014	28710715
06380010	28010672	06458013	28230674

STATION ALTITUDE 4051.37 FEET MSL
26 MAY 1100 HRS MDT
ASCENSION NO. 104

SIGNIFICANT LEVEL DATA

1460150104

LC-37

TABLE 6

EQUATORIAL COORDINATES
32°40'17.5" LAT LIG
106.31232" LONG JEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FELT	TEMPERATURE OF WIND OFFSETS CENTIGRADE	REL. HUM. PERCENT
375.5	4051.4	29.5	•2
660.2	4294.8	26.8	4.0
850.0	4005.8	24.5	3.2
760.4	7729.1	16.5	-7
745.9	8592.5	14.1	-1.9
700.0	10338.8	9.6	-4.4
664.8	11735.9	5.5	-6.1
619.6	13606.6	-1.0	-7.6
608.2	14094.0	-1.3	-6.6
593.0	14757.7	-1.4	-9.5
557.8	16354.8	-3.5	-23.7
549.2	16758.9	-3.1	-16.6
532.2	17577.0	-3.4	-17.3
500.0	19188.2	-7.4	-19.5
474.6	20514.5	-11.2	-21.3
458.6	21379.4	-12.0	-24.0
428.2	23094.4	-15.6	-26.6
413.2	23976.3	-17.8	-23.3
400.0	24773.3	-19.5	-24.4
395.1	25074.1	-20.6	-25.1
387.8	25528.2	-20.8	-27.4
365.7	26946.6	-24.2	-29.7
354.4	27698.1	-25.6	-32.5
337.9	28830.2	-28.3	-35.8
306.8	31085.2	-33.7	-40.5
300.0	31601.5	-34.9	-42.0

STATION ALTITUDE 4051.37 FEET, S.
26 MAY 01 1960 HRS, MDT
ASCLATION NO. 104

UPPER AIR DATA
1460100104
LC-37

EQUATORIAL COORDINATES
32°40'17.5 LAT UEG
106°31'23.2 LONG E

TABLE 7

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GR/CUBIC METER	SOUND SPEED KNOTS	WIND DIA- RATION LENGHTS (IN)	WIND DIA- RATION SPEED KIOTS	INDEX OF REFRACTION
4051.4	872.5	29.5	•2	15.0	100.1	678.0	2.9
4500.0	362.0	26.0	3.7	23.7	100.3	675.0	3.1
5000.0	847.2	24.2	5.1	25.2	989.0	673.0	4.0
5500.0	832.4	22.8	2.5	26.3	970.5	671.5	5.2
6000.0	817.8	21.4	1.6	27.3	964.1	669.7	6.6
6500.0	803.5	20.0	1.1	28.4	951.9	669.0	6.5
7000.0	789.5	18.6	.4	29.5	939.9	669.4	6.4
7500.0	775.6	17.1	-.3	30.5	923.1	664.7	5.9
8000.0	761.9	15.7	-1.0	31.6	916.2	665.1	5.2
8500.0	746.4	14.4	-1.8	32.8	904.3	661.5	5.1
9000.0	734.7	13.0	-2.5	33.9	892.2	659.9	5.8
9500.0	721.7	11.6	-3.1	35.1	880.2	658.4	7.5
10000.0	708.7	10.5	-3.9	36.0	863.5	656.9	9.5
10500.0	695.9	9.1	-4.5	37.2	850.7	655.5	11.2
11000.0	683.1	7.7	-5.1	39.4	845.5	653.0	12.2
11500.0	670.6	6.2	-5.7	42.0	834.4	651.9	12.9
12000.0	658.2	4.6	-6.2	45.4	823.8	650.0	14.2
12500.0	646.0	2.8	-6.5	49.9	813.5	647.9	15.6
13000.0	633.9	1.1	-7.0	54.5	803.5	645.5	18.0
13500.0	622.1	-.6	-7.6	59.0	793.6	643.6	20.6
14000.0	610.4	-1.2	-7.8	65.6	780.2	643.1	21.9
14500.0	598.9	-1.4	-8.3	59.0	760.0	642.9	23.1
15000.0	587.5	-1.7	-11.1	48.7	752.8	642.4	24.0
15500.0	576.4	-2.4	-14.8	37.7	740.6	641.5	24.7
16000.0	565.4	-3.0	-19.4	26.8	726.6	640.0	24.7
16500.0	554.7	-3.4	-21.7	22.6	715.7	640.1	25.0
17000.0	544.1	-3.2	-19.2	30.2	701.5	640.4	26.0
17500.0	533.8	-3.4	-17.4	32.6	688.5	640.2	26.7
18000.0	523.6	-4.5	-17.9	34.1	676.0	640.6	27.5
18500.0	513.5	-5.7	-18.6	35.3	666.4	657.5	28.2
19000.0	503.7	-6.9	-19.3	36.5	656.4	656.0	29.0
19500.0	493.9	-6.3	-19.9	38.4	649.0	654.5	30.1
20000.0	484.5	-9.7	-20.6	40.7	639.9	652.0	30.4
20500.0	474.9	-11.2	-21.2	42.9	630.9	650.9	30.2
21000.0	465.6	-11.6	-22.8	39.1	619.7	630.2	30.0
21500.0	455.4	-12.3	-24.2	36.1	609.0	629.0	29.7
22000.0	447.4	-13.3	-24.9	36.7	599.3	628.4	29.3
22500.0	439.5	-14.4	-25.7	37.3	589.9	626.9	29.7
23000.0	429.8	-15.4	-26.3	37.9	580.6	625.6	29.9
23500.0	421.2	-16.6	-26.8	49.0	571.0	624.2	29.6

STATION ALTITUDE 4051.37 FEET
26 MAY 81 1600 hrs, ND
ASCENSION NO. 104

UPPER AIR DATA
146016004
LC-57

EQUATORIAL COORDINATES
32°40'17" LAT DEG
106°31'23" LON DEG

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	WIND DATA DIR/DRCTN DEGREES (TH)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	412.8	-17.9	-23.3	62.1	562.8	622.7	285.3	25.5	1.000131
24500.0	404.5	-18.9	-21.0	64.0	553.8	621.4	282.9	23.0	1.000128
25000.0	396.3	-20.3	-24.9	66.5	545.6	619.7	282.7	19.9	1.000126
25500.0	388.2	-20.8	-27.3	55.7	535.9	619.1	282.8	18.9	1.000123
26000.0	380.3	-21.9	-29.2	56.7	527.1	617.7	282.9	18.6	1.000121
26500.0	372.5	-23.1	-29.0	58.4	518.8	616.2	281.6	19.9	1.000119
27000.0	364.9	-24.3	-28.9	59.4	510.5	614.7	280.1	21.7	1.000117
27500.0	357.5	-25.2	-31.8	54.1	501.9	613.5	277.0	22.3	1.000114
28000.0	349.0	-26.3	-33.4	50.9	493.7	612.2	275.3	22.4	1.000112
28500.0	342.6	-27.5	-34.9	49.2	485.8	610.7	273.9	23.4	1.000110
29000.0	335.5	-28.7	-36.2	48.2	477.9	609.2	272.9	24.6	1.000108
29500.0	328.3	-29.9	-37.2	48.6	470.1	607.7	273.9	25.5	1.000106
30000.0	321.4	-31.1	-38.2	49.0	462.4	606.2	275.5	26.2	1.000104
30500.0	314.6	-32.3	-39.3	49.5	454.9	604.7	279.4	25.8	1.000103
31000.0	307.9	-33.5	-40.3	49.9	447.5	603.2			1.000101
31500.0	301.3	-34.7	-41.7	48.4	440.1	601.7			1.000099

STATION ALTITUDE 4617 FT SL
26 MAY 1961
ASCLNSLON NO. 104

ANALYTICAL LEVELS
1460160104
LC-37

GEODETIC COORDINATES
32°40'17" LAT DEG
106°31'23" LONG DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL FLEET	TEMPERATURE AIR DEGREES CENTIGRADE	HLL. HUM. PERCENT	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	4902.	24.5	3.2	25.	39.0
800.0	628.	19.6	1.0	29.	15.0
750.0	B433.	14.5	-1.7	33.	33.5
700.0	10329.	9.6	-4.4	37.	281.0
650.0	12325.	5.4	-6.4	48.	256.7
600.0	14433.	-1.4	-8.1	60.	249.9
550.0	16699.	-5.1	-19.0	28.	255.0
500.0	19161.	-7.4	-19.5	37.	14.3
450.0	21821.	-15.0	-24.7	37.	297.5
400.0	24732.	-19.5	-24.4	65.	10.1
350.0	27945.	-26.3	-33.4	51.	24.8
300.0	31538.	-34.9	-42.0	48.	21.4

STATION ALTITUDE 3989.00 FEET MSL
26 MAY 1951 12⁰n HRS MDT
ASUMPTION: NO. 559

SIGNIFICANT LEVEL DATA
14600, 0.35g
WHITE SANDS

TABLE 9

SEOUTLINE COORDINATES
32°40'04.3 LAT DEG
106°37'03.3 LON DEG

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE METERS MSL FELL	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT
677.4	3789.0	29.5	16.0
850.0	4009.6	25.7	20.0
783.6	7049.5	19.7	24.0
700.0	10357.7	9.5	36.0
607.4	14160.1	-2	52.0
590.8	14333.2	-9	41.0
564.2	16096.3	-1.7	29.0
547.6	16566.9	-2.7	41.0
500.0	19228.5	-7.1	33.0
430.0	23030.4	-16.3	44.0
400.0	24807.1	-20.5	67.0
393.4	25211.3	-21.5	76.0
345.4	28332.4	-27.5	51.0
300.0	31614.8	-35.8	47.0

SITUATION ALTITUDE 3939.00 FEET, S.L.
26 MAY 1941 1200 HRS NDT
ASCENSION 1.0.

WEATHER AIR DATA
1460020559
WHITE SANDS

TABLE 10

GEODETIC COORDINATES
32°40.043 LAT LEG
106°37.033 LON DEG

GEOMETRIC ALTITUDE IN SL FEET	PRESSURE IN MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	DEWPOINT DEGREES CELSIUS	REL.HUM. PERCENT	GRAVIMETRIC PERCENT	REL.HUM. METER	DEPTH OF SOUND KILOMETERS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEDD KNOTS	INFLUX OR REFRACTION
3989.0	877.4	29.5	2.7	18.0	100.0	673.6	60.0	5.1	1.000255	
4000.0	877.1	29.5	2.7	18.0	100.5	673.6	60.1	5.1	1.000255	
4500.0	364.1	27.4	1.3	19.1	99.2	676.4	83.1	5.2	1.000251	
5000.0	847.3	25.4	1.0	20.2	985.6	674.2	86.1	5.3	1.000248	
5500.0	832.6	24.0	.5	21.1	973.2	672.0	88.9	5.4	1.000244	
6000.0	912.1	22.6	-1	22.0	960.9	671.0	91.5	5.6	1.000240	
6500.0	810.9	21.2	-7	23.0	948.7	669.3	91.6	4.8	1.000237	
7000.0	790.3	19.8	-1.3	23.9	936.8	657.7	90.0	3.8	1.000233	
7500.0	775.9	18.3	-1.7	25.6	925.0	646.0	83.8	3.1	1.000230	
8000.0	762.1	16.3	-2.1	27.4	913.3	654.2	85.3	2.4	1.000227	
8500.0	745.5	15.2	-2.5	29.3	901.0	662.4	71.7	2.2	1.000224	
9000.0	735.1	13.7	-3.1	31.1	890.5	660.6	53.9	2.6	1.000221	
9500.0	722.3	12.1	-3.7	32.9	879.4	659.8	40.4	3.1	1.000218	
10000.0	709.1	10.6	-4.3	34.7	868.5	657.0	20.8	3.6	1.000214	
10500.0	696.3	9.1	-4.9	36.6	857.3	655.3	60.9	4.0	1.000211	
11000.0	685.4	7.9	-5.3	38.7	845.5	653.8	340.7	4.8	1.000208	
11500.0	671.9	6.9	-5.8	40.8	833.5	652.3	305.0	7.2	1.000205	
12000.0	656.4	5.3	-6.3	42.9	821.9	650.8	287.9	11.0	1.000202	
12500.0	640.2	4.0	-6.8	45.0	810.4	649.3	279.3	14.8	1.000199	
13000.0	634.3	2.8	-7.4	47.1	793.2	647.8	273.7	17.0	1.000196	
13500.0	622.5	1.5	-8.0	49.2	788.1	646.3	269.5	19.2	1.000192	
14000.0	611.0	.2	-8.6	51.3	777.2	644.7	264.2	19.4	1.000189	
14500.0	597.6	-.5	-10.4	47.2	764.2	643.8	253.9	19.6	1.000185	
15000.0	586.3	-.9	-12.7	40.3	751.8	643.2	257.1	18.4	1.000179	
15500.0	571.2	-1.3	-14.7	35.2	736.7	642.8	257.0	16.4	1.000175	
16000.0	560.3	-1.6	-16.9	30.0	725.8	642.3	257.1	14.5	1.000170	
16500.0	555.5	-2.2	-15.5	35.3	715.5	641.6	253.2	12.8	1.000168	
17000.0	542.9	-2.9	-14.5	40.5	701.7	640.8	262.0	11.1	1.000167	
17500.0	534.6	-3.9	-15.8	38.9	630.7	639.7	267.2	11.0	1.000163	
18000.0	524.3	-4.3	-17.2	37.2	626.7	638.5	272.7	11.3	1.000160	
18500.0	514.3	-5.7	-18.6	35.5	629.5	637.4	261.0	12.0	1.000157	
19000.0	504.4	-6.7	-20.0	33.8	658.6	636.2	269.0	13.1	1.000153	
19500.0	494.6	-7.8	-21.9	33.8	648.7	634.9	265.0	13.6	1.000151	
20000.0	484.9	-9.0	-21.5	35.2	636.9	633.5	277.1	14.2	1.000148	
20500.0	475.4	-10.2	-22.1	36.7	629.3	632.0	275.0	15.0	1.000146	
21000.0	463.1	-11.4	-22.3	38.1	619.3	630.6	275.0	17.7	1.000143	
21500.0	450.9	-12.6	-23.5	39.6	610.4	629.1	271.2	20.5	1.000141	
22000.0	447.0	-13.8	-24.2	41.0	601.3	627.6	269.3	23.5	1.000139	
22500.0	439.1	-15.0	-24.9	42.5	592.2	626.1	271.1	25.5	1.000137	
23000.0	430.5	-16.2	-25.6	43.9	583.4	625.0	271.4	27.1	1.000134	

STATION ALTITUDE 3989.00 FEET SL
26 MAY H1 1200 HRS MD
ASCENSION NO. 359

WEIGHT AIR DIA

1460000.00

WEIGHT SALT

WEIGHT COORDINATES
32°40.043 LAT DEG
106°37.033 LON DEG

TABLE 10 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL.HUM. PERCENT	REFRACT. GM/CURIC METER	SOLN OF WIND DIA DEGRLLS (14)	WIND DIA KNOTS	INDEX OF REFRACTION
23500.0	421.0	-17.4	-25.3	50.1	574.2	623.2	27.7
24000.0	415.4	-18.6	-25.0	56.6	565.3	621.4	26.0
24500.0	410.0	-19.8	-25.0	63.0	556.5	620.4	277.6
25000.0	399.8	-21.0	-24.8	71.3	547.9	618.9	277.2
25500.0	389.7	-22.1	-25.5	73.7	539.9	617.0	276.6
26000.0	380.7	-23.0	-27.0	69.7	529.6	616.3	277.1
26500.0	372.8	-24.1	-28.5	65.7	520.9	615.1	26.4
27000.0	365.1	-24.9	-30.1	61.7	512.2	613.9	277.5
27500.0	357.6	-25.9	-31.7	57.7	505.6	612.7	25.5
28000.0	350.2	-26.9	-33.4	53.7	495.2	611.5	271.7
28500.0	342.9	-27.9	-34.9	50.8	487.0	610.2	24.9
29000.0	335.6	-29.2	-36.2	50.2	479.1	608.6	270.2
29500.0	328.5	-30.5	-37.5	49.6	471.4	607.0	271.8
30000.0	321.5	-31.7	-38.8	49.0	463.8	605.4	273.4
30500.0	314.7	-33.0	-40.1	48.4	456.4	603.8	26.5
31000.0	308.0	-34.2	-41.4	47.7	449.1	602.2	1.000103
31500.0	301.5	-35.5	-42.7	47.1	441.9	600.6	1.000101

STATION ALTITUDE 3980.00 FEET MSL
26 MAY 1200 HRS ADT
AIRCRAFT NO. 969

AT DENSITY LEVELS
14600.00 FT.
WHITE AIR,
ASCENSION NO. 969

SATELLITE COORDINATES
32°40.043 LAT DEG
106.37033 LON DEG

TABLE 11

PRESSURE (EQUIVALENT) MILLIBARS	TEMPERATURE DEGREES CELSIUS	AIR DEWPOINT DEGREES CELSIUS	REL. HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	49.0	25.7	100	20	85.0
800.0	60.8	20.8	79	23	91.4
750.0	84.9	15.4	205	29	73.7
700.0	105.7	2.5	403	50	15.9
650.0	125.7	4.4	606	44	281.3
600.0	144.6	-7.5	103	47	259.2
550.0	167.4	-2.6	145	59	19.6
500.0	192.0	-7.1	293	35	260.5
450.0	218.6	-13.5	240	41	291.0
400.0	247.6	-20.5	250	67	15.5
350.0	279.6	-26.9	334	67	289.7
300.0	315.5	-35.8	430	47	22.8

STATION ALTITUDE 4051.37 FEET MSL
26 MAY 51 1300 HRS MDI
ASCENSION NO. 105

SIGNIFICANT LEVEL DATA
14601.0105
LC-37

GEODETIC COORDINATES
32°40'17" LAT DEG
106°31'23" LONG DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE M.S.L. FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
874.5	4051.4	30.4	16.0
870.2	4195.2	28.0	20.0
850.0	4875.0	25.6	21.0
801.4	6557.8	20.6	24.0
782.0	7249.3	18.2	25.0
764.6	8617.7	14.4	-2.1
725.6	9332.5	12.6	-2.5
716.6	9676.0	11.7	-3.0
700.0	10317.9	9.8	-3.6
663.0	11787.8	5.1	-4.9
610.4	13597.0	0.0	-6.1
585.6	15072.9	-0.8	-8.2
577.2	15452.4	-0.5	-15.8
568.8	15837.0	-1.6	-16.9
542.8	17058.4	-3.1	-17.1
500.0	19175.8	-8.4	-21.4
469.8	20755.2	-12.0	-22.3
454.8	21569.0	-14.1	-20.9
446.4	22634.1	-14.8	-22.5
430.8	22917.1	-16.6	-25.7
415.4	23815.2	-18.0	-25.8
400.0	24740.3	-20.4	-25.6
393.6	25132.7	-21.5	-25.5
379.2	26034.6	-23.0	-26.8
344.8	28304.7	-28.3	-35.8
325.0	29691.0	-31.9	-37.7
300.0	31533.4	-37.1	-42.6

STATION ALTITUDE 4951.37 FEET MSL
26 MAY 81 13th HRS ND
ASCENSION NO. 105

UPPER AIR DATA
146018010,
L.C-37

TABLE 13

OUTPUT COORDINATES
32°40'17.5 LAT DEG
106°31'23.2 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CELSIUS	REL.HUM. PERCENT	INTENSITY GM/SEC/CUIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (IN) KNOTS	WIND DATA SPD KNOTS (IN)	INDEX OF REFRACTION.
4051.4	374.5	30.4	1.0	16.0	1070.6	679.8	120.0	1.9
4500.0	861.1	26.9	2.4	20.4	966.5	675.9	142.5	1.4
5000.0	846.3	25.2	1.5	21.2	955.1	674.0	184.0	1.3
5500.0	831.6	23.7	.9	22.1	972.9	672.3	216.2	1.7
6000.0	817.2	22.3	.2	23.0	960.9	670.5	229.5	2.6
6500.0	802.9	20.8	-.6	23.9	949.1	668.8	229.5	4.0
7000.0	786.9	19.1	-1.6	24.6	938.1	666.8	231.8	5.5
7500.0	775.1	17.5	-2.1	26.1	926.5	665.0	236.7	7.6
8000.0	761.3	16.1	-2.2	28.3	914.4	663.4	240.9	9.7
8500.0	747.7	14.7	-2.4	30.5	902.5	661.8	247.7	12.1
9000.0	734.4	13.4	-3.1	31.5	890.4	660.3	251.5	12.9
9500.0	721.2	12.2	-3.6	33.0	878.4	658.9	252.4	12.7
10000.0	708.2	10.7	-4.3	34.5	866.9	657.2	244.1	11.6
10500.0	695.3	9.2	-5.0	36.1	855.9	655.4	237.6	11.4
11000.0	682.6	7.6	-5.4	39.2	845.0	653.5	233.7	11.8
11500.0	670.1	6.0	-5.8	42.2	834.3	651.0	235.0	12.4
12000.0	657.7	4.5	-6.3	45.2	823.4	649.9	237.9	13.2
12500.0	645.5	3.1	-6.8	47.9	812.3	648.2	242.5	13.5
13000.0	632.5	1.7	-7.4	50.7	801.3	646.5	250.7	13.3
13500.0	621.7	.3	-8.0	53.5	790.4	644.6	259.1	13.3
14000.0	610.0	-.2	-9.9	47.7	777.2	644.2	263.0	12.2
14500.0	598.5	-2.5	-12.4	39.9	763.5	643.6	267.1	10.9
15000.0	587.2	-0.8	-15.3	32.1	750.1	645.4	263.5	9.5
15500.0	576.2	-0.6	-16.0	30.1	735.7	645.5	254.7	8.1
16000.0	565.3	-1.8	-16.5	31.3	724.9	642.1	251.3	8.0
16500.0	554.5	-2.4	-16.8	32.1	712.7	641.4	252.8	8.7
17000.0	544.1	-3.0	-17.0	32.9	700.8	640.6	255.9	9.6
17500.0	533.6	-4.2	-18.0	33.2	690.4	639.2	259.9	10.8
18000.0	522.3	-5.5	-19.0	33.4	680.4	637.7	264.0	11.7
18500.0	512.3	-6.7	-20.0	33.7	670.5	636.2	271.7	11.7
19000.0	502.4	-8.0	-21.0	33.9	660.8	634.7	279.4	11.8
19500.0	492.6	-9.1	-21.5	35.6	650.0	635.5	282.2	13.3
20000.0	484.9	-10.3	-21.8	36.2	640.9	631.9	263.5	15.0
20500.0	474.6	-11.4	-22.1	40.7	631.1	630.5	283.3	17.5
21000.0	465.2	-12.6	-21.8	46.2	620.5	630.2	281.0	21.2
21500.0	456.1	-13.9	-21.0	54.8	612.3	627.5	280.4	24.8
22000.0	447.9	-14.7	-23.4	47.7	602.2	620.5	279.7	26.0
22500.0	438.1	-15.7	-24.7	45.9	592.5	625.2	278.9	28.0
23000.0	429.4	-16.7	-25.7	45.5	582.9	624.0	275.6	29.9
23500.0	420.7	-17.5	-25.8	48.2	573.0	625.1	272.6	30.8

STATION ALTITUDE 4000 FT SL
26 MAY HI 1300 hrs 1D₁
ASCENSION NO. 105

UPPER AIR DATA
1460100105
LC-37

LOAD LOC COORDINATES
52.40175 LAT LEG
106.31232 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE'S CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DATA SPEED KNOTS	WIND DATA DIRECTION DEGREES (TH)	INPUT OF REFRACTION
24000.0	412.5	-18.5	52.6	563.6	621.9	270.8	30.3
24500.0	405.9	-19.8	52.6	555.0	620.3	269.2	29.9
25000.0	399.8	-21.1	52.4	546.0	618.7	269.6	30.2
25500.0	387.7	-22.1	52.9	537.6	617.5	269.9	30.5
26000.0	379.7	-22.9	52.7	528.4	616.4	270.0	31.2
26500.0	371.9	-24.1	52.2	519.4	615.0	270.2	31.7
27000.0	364.2	-25.3	52.7	511.5	613.5	270.4	31.7
27500.0	356.6	-26.4	51.3	503.3	612.1	270.7	31.7
28000.0	349.2	-27.6	52.8	495.2	610.6	271.4	31.8
28500.0	341.9	-29.0	54.3	487.3	609.1	272.0	31.5
29000.0	334.7	-30.1	55.7	479.6	607.4	272.1	29.3
29500.0	327.7	-31.4	57.2	472.0	605.8	272.9	27.6
30000.0	320.7	-32.8	59.5	464.6	604.1	271.3	27.6
30500.0	313.8	-34.2	59.9	457.3	592.5		
31000.0	307.0	-35.6	41.2	450.2	600.5		
31500.0	300.4	-37.0	42.0	443.1	598.7		

STATION ALTITUDE 4753.37 FEET SL
26 MAY 81
ASSEMBLATION NO. 105

MANUFACTORY LEVELS
1460100105
LC-37

SATELLITE COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	KELVIN. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS
850.0	4871.	25.6	1.7	21.	172.9	1.2
800.0	6602.	20.4	-0.8	24.	229.6	4.3
750.0	8410.	15.0	-2.4	30.	246.7	11.7
700.0	10308.	9.8	-4.9	35.	239.0	11.3
650.0	12305.	3.6	-6.6	47.	239.0	13.7
600.0	14417.	-0.5	-12.1	41.	266.4	11.1
550.0	16693.	-2.7	-16.9	32.	253.4	8.9
500.0	19149.	-8.4	-21.4	34.	281.1	12.1
450.0	21800.	-14.5	-22.4	51.	279.9	26.2
400.0	24679.	-20.4	-25.6	63.	269.4	30.1
350.0	27899.	-27.5	-32.7	61.	271.3	31.8
300.0	31470.	-37.1	-42.6	56.		

STATION ALTITUDE 3989.00 FEET MSL
26 MAY 81 151 HRS MDT
ASCENSION NO. 361

SIGHTING LEVEL DATA
14600±0.360
WHITE SMOKE

GEODETIC COORDINATES
32°40'04.5" LAT UEG
106°37'03.5" LON UEG

TABLE 15

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE M.S.L. FEET	TEMPERATURE OF POINT OF GREFS CENTIGRADE	R.H. HUM. PERCENT
875.0	3089.0	32.2	3.2
850.0	4038.5	28.4	7.0
770.4	7659.8	10.4	1.9
700.0	10328.9	11.4	-2.8
635.8	12034.1	3.6	-5.8
605.3	14237.6	-3.3	-7.1
568.0	15001.3	-3.6	-16.1
543.6	17044.3	-2.7	-15.0
500.0	19203.2	-8.0	-19.6
435.4	22684.7	-16.3	-24.7
420.6	23538.2	-10.2	-20.0
400.0	24768.8	-20.0	-24.7
398.0	25110.4	-21.4	-25.4
378.2	26130.4	-22.4	-20.4
360.0	31578.3	-36.2	-44.2

SITUATION ALTITUDE 3480.00 FEET SL
26 MAY 81 151 HRS MD
ASCENSION NO. 360

WHITE AIR DATA
WHITE SANDS

GEONALIC COORDINATES
32°40'04.3 LAT DEG
106.37033 LON DEG

TABLE 16

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CELSIUS	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DIA. DEGREES (IN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION	
3989.0	874.0	32.2	16.0	994.9	081.9	300.0	9.9	
4000.0	874.7	32.2	16.1	994.7	081.8	299.8	9.9	
4500.0	859.9	29.9	22.6	984.3	079.6	293.1	10.4	
5000.0	845.2	27.9	7.3	975.6	077.5	287.0	11.0	
5500.0	830.6	26.3	6.3	962.1	075.0	281.6	11.6	
6000.0	816.3	24.7	5.3	950.8	073.7	276.8	12.4	
6500.0	802.2	23.1	4.5	939.6	071.9	272.7	13.3	
7000.0	788.3	21.5	3.2	928.6	070.0	268.3	13.6	
7500.0	774.7	19.9	2.2	917.7	066.1	264.1	13.8	
8000.0	761.0	18.4	1.3	906.4	066.3	260.7	14.0	
8500.0	747.5	16.9	.5	895.0	064.5	259.1	13.8	
9000.0	734.2	15.4	-4	883.7	062.8	257.4	13.7	
9500.0	721.1	13.9	-1.2	872.7	061.0	255.8	13.6	
10000.0	708.3	12.4	-2.1	861.8	060.2	255.0	13.4	
10500.0	695.6	10.9	-2.9	850.8	057.5	254.9	13.2	
11000.0	682.9	9.4	-3.4	839.7	055.7	254.9	12.9	
11500.0	670.4	7.9	-3.9	828.8	053.9	254.6	12.7	
12000.0	658.1	6.4	-4.6	816.1	052.2	254.0	13.0	
12500.0	646.1	4.9	-5.2	807.5	050.4	253.2	13.2	
13000.0	634.2	3.4	-5.9	797.0	048.6	252.4	13.5	
13500.0	622.4	1.9	-6.3	786.4	046.9	251.0	13.8	
14000.0	610.7	*4	-6.8	776.0	045.1	249.4	14.1	
14500.0	599.3	*8	-7.4	765.9	043.3	250.1	13.5	
15000.0	587.9	*8	-11.0	49.5	753.5	642.3	252.1	12.5
15500.0	576.8	-2.8	-13.7	42.5	742.2	641.0	255.1	11.7
16000.0	565.8	-5.5	-16.0	37.1	730.2	640.1	257.4	11.3
16500.0	555.1	-3.1	-15.5	37.5	715.3	640.0	255.3	11.9
17000.0	544.5	-2.7	-15.1	38.0	700.6	641.1	255.0	12.5
17500.0	534.1	-3.8	-16.0	38.0	690.0	639.7	255.2	13.1
18000.0	523.8	-5.0	-17.1	38.0	679.9	638.3	255.2	13.7
18500.0	513.8	-6.3	-18.2	38.0	670.0	636.8	267.9	14.5
19000.0	503.9	-7.5	-18.3	38.0	660.2	635.3	268.9	15.2
19500.0	494.1	-8.7	-20.2	38.0	650.5	633.4	268.1	16.2
20000.0	484.4	-9.9	-21.8	40.3	640.5	632.4	268.2	15.1
20500.0	474.9	-11.1	-21.5	41.7	630.7	630.9	267.3	16.5
21000.0	465.5	-12.3	-22.2	43.2	620.7	629.5	267.7	21.5
21500.0	456.4	-13.5	-22.9	44.6	611.3	628.0	273.2	23.6
22000.0	447.4	-14.7	-23.7	46.0	602.5	626.6	276.2	25.2
22500.0	438.6	-15.9	-24.4	47.5	593.4	625.1	276.0	26.4
23000.0	429.9	-17.0	-25.9	49.8	594.1	623.6	274.1	26.2

STATION ALTITUDE 3,890 FEET ASL
 26 MAY 61
 ASCENSIOIN 600.
 1511 HRS STD

OPENER AIR LA
 14600 0.0360
 WITH SMOKE

GLORIFIC COORDINATES,
 32° 40' 04.3" LAT LG
 106° 37' 33" LONG LG

GEOMETRIC PRESSURE
 ALTITUDE
 IN SL FEET
 MILLIBARS

TEMPERATURE
 AIR
 DEGREES CELSIUS
 CEMIGRAPH

REL.HUM.
 PERCENT
 METER

GEOMETRIC PRESSURE ALTITUDE IN SL FEET	TEMPERATURE AIR DEGREES CELSIUS CEMIGRAPH	REL.HUM. PERCENT METER	DENSITY GM/CUBIC METER	WIND JAH SPEED MILES/HOUR	WIND JAH SPEED KNOTS	INFLUX OF REFRACTION,
23500.0	421.3	-16.1	574.8	622.2	277.5	1.000135
24000.0	412.7	-16.9	564.9	621.5	273.4	1.000132
24500.0	404.4	-19.6	555.2	620.6	263.5	1.000129
25000.0	396.2	-20.4	545.8	619.5	263.5	1.000126
25500.0	386.2	-21.4	536.7	618.4	264.0	1.000124
26000.0	380.2	-22.2	527.5	617.4	265.5	1.000121
26500.0	374.5	-23.3	518.9	615.9	268.3	1.000119
27000.0	364.5	-24.6	510.6	614.5	269.1	1.000117
27500.0	356.8	-25.9	502.3	612.7	269.3	1.000114
28000.0	349.3	-27.1	52.9	611.2	269.1	1.000112
28500.0	342.0	-28.4	51.5	610.6	268.9	1.000110
29000.0	334.8	-29.7	50.1	609.8	268.5	1.000108
29500.0	327.7	-30.9	48.7	608.0	268.5	1.000108
30000.0	320.6	-32.2	47.3	606.4	263.0	1.000106
30500.0	314.1	-33.5	46.0	604.8	267.0	1.000105
31000.0	307.5	-34.7	44.6	603.2	265.3	1.000103
31500.0	301.7	-36.0	43.2	449.2	601.6	1.000101
				442.1	600.0	1.000099

TABLE 16 CONT

STATION ALTITUDE 3939.60 FEET S.L.
26 MAY 61 1511 HRS, MDT
ASCENSION NO. 366

MANOMETRIC LEVELS
1460021300
WHITE SWELL

ULOGIC COORDINATES
32.4003 LAT NEG
106.37033 LON UEG

TABLE 17

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE			REL.HUM.	WIND DIRECTION DEGREES (TN)	WIND VELOCITY KNOTS
		ATP DEGREES	DAMPING CENTIGRADE	PERCENT			
850.0	4835.	28.4	7.6	27.	289.0	10.7	
800.0	5505.	22.9	6.1	29.	272.0	12.4	
750.0	6407.	17.2	6	33.	259.4	13.9	
700.0	10519.	11.4	-2.6	37.	255.0	13.3	
650.0	12329.	5.4	-5.0	47.	253.4	13.2	
600.0	14452.	-2.8	-8.2	57.	250.0	13.6	
550.0	16717.	-2.9	-15.3	58.	254.4	12.2	
500.0	19176.	-3.0	-19.8	58.	269.2	15.5	
450.0	21631.	-14.3	-23.5	46.	275.4	24.8	
400.0	24727.	-20.0	-24.7	66.	265.6	27.6	
350.0	27936.	-27.0	-33.7	53.	269.1	27.2	
300.0	31515.	-36.2	-44.2	43.			

